

Available online at www.sciencedirect.com

SciVerse ScienceDirect

journal homepage: www.elsevier.com/locate/rmed

LETTER TO THE EDITOR

Reply to On the need for competent evaluation of trial quality

In the Mead study, control group patients were 2.4 years older than patients in the experimental group and their rate of sepsis at baseline was 3.7% higher.¹ This may or may not be statistically significant but the differences did not seem to be clinically significant. In terms of intention to treat analysis, only two patients out of 985 randomized patients (0.2%) were excluded from primary analysis. Unfortunately Jadad score does not include the assessment of randomization errors and intention to treat analysis.² However this degree of difference and the exclusion of two patients would be unlikely to jeopardize the validity of study.

There are three parties that can be blinded in a randomized controlled trial (RCT), namely patients, treating physicians and outcome assessors. Therefore blinded RCTs can be classified as "single-blind", "double-blind", or "triple-blind".³ In ventilator trials, there would be no way that patients know the treatment assignment since they are intubated and sedated. Treating physician could not be blinded because the nature of the intervention. We did not deduct Jadad points in the Mead study because it was clearly stated that the outcome assessor was blinded and, in our opinion, their study was still considered double-blind if not triple blind for the reasons mentioned above. In addition, it was felt that bias introduced by not blinding treating physicians in this type of study was insignificant since core outcome measures such as mortality rates, ventilator days, and ICU length of stay were very objective, in contrast to patient-reported outcomes, and would not easily be affected even if treating physicians knew the treatment allocation. It is also hard to believe that different PEEP levels affected how treating physicians managed the patients otherwise.

That said, a quality scale such as Jadad score may no longer be appropriate to assess the risk of bias although the use of Jadad score was still prevalent when our analysis was conducted in 2008. The PRISMA statement now recommends a component approach such as the Cochrane Risk of Bias Tool in which assessments of risk of bias require judgment by researchers.^{4,5} Although some of the included studies in our meta-analysis had a low Jadad score, it was felt that the risk of bias was not high enough to preclude

the synthesis of data as reasoned above, which were supported by other similar studies.^{6,7}

Conflict of interest

I declare no conflict of interest associated with this letter.

References

1. Meade MO, Cook DJ, Guyatt GH, et al. Ventilation strategy using low tidal volumes, recruitment maneuvers, and high positive end-expiratory pressure for acute lung injury and acute respiratory distress syndrome: a randomized controlled trial. *JAMA* 2008 Feb 13; **299**(6):637–45.
2. Jadad AR, Moore RA, Carroll D, et al. Assessing the quality of reports of randomized clinical trials: is blinding necessary? *Control Clin Trials* 1996 Feb; **17**(1):1–12.
3. Devereaux PJ, Manns BJ, Ghali WA, et al. Physician interpretations and textbook definitions of blinding terminology in randomized controlled trial. *JAMA* 2001; **285**(15):2000–3.
4. Liberati A, Altman DG, Tetzlaff J, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *Ann Intern Med* 2009; **151**:W65–94.
5. Higgins JP, Altman DG, Gotzsche PC, et al. The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. *BMJ* 2011; **343**:d5928.
6. Phoenix SI, Paravastu S, Columb M, et al. Does a higher positive end expiratory pressure decrease mortality in acute respiratory distress syndrome? A systematic review and meta-analysis. *Anesthesiology* 2009; **110**:1098–105.
7. Putensen C, Theuerkauf N, Zinserling J, et al. Meta-analysis: ventilation strategies and outcomes of the acute respiratory distress syndrome and acute lung injury. *Ann Intern Med* 2009; **151**:566–76.

Yuji Oba*

University of Missouri,
Pulmonary and Critical Care Medicine,
One Hospital Drive, Columbia,
MO 65203, United States

* Tel.: +1 573 882 8583.

E-mail address: obay@health.missouri.edu

8 August 2012